REMARKS

In the Office Action, claims 1-5, 7-17, 19-25, 27-37, 39 and 40 were reviewed with the result that claim 9 was deemed to recite allowable subject matter and the remaining claims were rejected under 35 USC §103. As indicated above, Applicant has amended the claims. More particularly:

Independent claims 1, 14, 21 and 34 (directed to the embodiment of Figure 3) have been amended to clarify that the joint structure (e.g., 32) is electrically-conductive, the mesh (14) is flexible, the solder material (16) bonds the mesh (14) to the components (38,42) and the components (38,42) to each other, and the portion (36) of the mesh (14) extending outside of the joint structure (32) is solder-free.

Dependent claims 7, 19, 27 and 39 (directed to the embodiments of Figures 3 and 4) have been amended to clarify that the mesh (14) is flexible, at least two separate portions of the mesh (14) are infiltrated by the solder material (16) which bonds the mesh (14) to the integrated circuit chip (58) and to the second surface region (64) of the substrate (60), and the portion of the mesh (14) between the two separate portions is free of solder material so as to remain flexible.

Independent claims 10 and 30 (directed to the embodiment of Figures 5 and 6) have been amended to clarify that the mesh (14) is flexible and the terminals (74) of the devices (76) are bonded with the solder material (16) to the joint structure (72) so as

to hold the devices (76) together and bond the terminals (74) to the conductor (82).

Support for the above amendments can be found in paragraphs [0010], [0020], [0021] of Applicant's specification and Figures 2 through 6.

Applicant believes that the above amendments do not present new matter.

Favorable reconsideration and allowance of claims 1-5, 7-17, 19-25, 27-37, 39 and 40 are respectfully requested in view of the following remarks.

Prior Art Rejections

In the Office Action, all claim rejections are under 35 USC §103 and based on the same five references as in the previous Office Action, namely, U.S. Patent Nos. 4,529,836 to Powers et al. (Powers), 5,136,122 to Kwitkowski et al. (Kwitkowski), 6,083,772 to Bowman et al. (Bowman), 6,280,584 to Kumar et al. (Kumar), and 5,591,034 to Ameen et al. (Ameen), in further view of U.S. Patent Nos. 5,903,439 to Tamarkin, 6,307,755 to Williams et al. (Williams), and 5,221,399 to Sanborn et al. (Sanborn). Applicant respectfully traverses each of the §103 rejections in view of the following comments.

In setting forth the rejections, the Examiner did not cite any of the references as disclosing fundamental features of Applicant's independent claims, namely:

(1) as required by claims 1-5, 7-9, 14-17, 19-25, 27-29, 34-37, 39 and 40, the joint structure (32) comprises a flexible mesh (14), wherein:

(a) a solder material (16) bonds the mesh (14) to a pair of circuit components (38,42), and

(b) a solder-free portion (36) of the mesh (14) extends outside of the joint structure (32) and from between the components (38,42) to define a flexible jumper; and

(2) as required by claims 10-13 and 30-33, the joint structure (72,73) comprises a flexible mesh (14) wherein:

(a) a first component (78) comprises multiple electrical devices (76) with terminals (74);

(b) the terminals (74) are bonded with a solder material (16) to the joint structure (72,73) so as to hold the devices (76) together; and

(c) the joint structure (72,73) bonds the terminals (74) to a second component (82).

The previous rejections based on various combinations of Powers, Kwitkowski, Bowman, Kumar, and Ameen were withdrawn and replaced with combinations of these same references in view of Tamarkin, Williams, and/or Sanborn. However, none of these references are relevant to the present invention. Specifically, Tamarkin was cited

for disclosing the well-known fact that FR-4 circuit boards are formed of epoxy-impregnated glass fiber mesh, Williams was cited for disclosing the well-known fact that solder and electrically-conductive epoxies have been used to attach circuit devices, and Sanborn was cited for disclosing an epoxy-impregnated glass fiber mesh. None of these references, nor any other reference of record, discloses:

(1) a flexible mesh with solder-infiltrated and solder-free portions, with the solder-infiltrated portions used to bond electrical components and the solder-free portions used to form flexible interconnections, or

(2) a flexible mesh with a solder-infiltrated portion that is used to bond together multiple devices to form a unitary device, which in turn can be bonded to a second circuit component.

Because the Examiner has not cited any of the references of record as disclosing the above-claimed features of Applicant's invention, Applicant respectfully requests withdrawal of the rejections under 35 USC §103(a).

Closing

Applicant respectfully requests that his patent application be given favorable reconsideration.

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Should the Examiner have any questions with respect to any matter now of record, Applicant's representative may be reached at (219) 462-4999.

Respectfully submitted,

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